

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐ _____					

March 22, 2016 8:56:05 AM

Page 2

Item ID:	D3674-041	Accept	*N900040100*	Setup	Start	*NS1*
Revision ID:						
Item Name:	Bracket				Stop	*NS2*
Start Date:	3/24/2016	Start Qty: 50.00	*50*	Cust Item ID:		
Required Date:	4/8/2016	Req'd Qty: 50.00	*50*	Customer:		
Reference:						

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run** **Start** ***NR1***
 QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

[illegible]

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 143720

March 22, 2016 8:56:05 AM

143720

Page 3

Item ID: D3674-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bracket
Start Date: 3/24/2016 Start Qty: 50.00 ***50*** Cust Item ID:
Required Date: 4/8/2016 Req'd Qty: 50.00 ***50*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: SKOSIA	0.00							
160									
Packaging	Memo	0.00							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.00							
Quality Control									

SO
APR 29 2016
9:46
MCJ
MAY 02 2016
dem 16/04/2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : ☐			
Misidentified ☐		Past Due ☐					

Picklist Print

March 22, 2016 8:56:13 AM

Page 1

Work Order ID: 143720

143720

Parent Item: D3674-041

D3674-041

Parent Item Name: Bracket

Start Date: 3/24/2016

Required Date: 4/8/2016

Start Qty: 50.00

Required Qty: 50.00

Comments: IPP Rev:A New Issue 08-04-25, JLM Verified By:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3121-241		Manufactured	No			100	Each	56.0000	1	50			
D3121-241 Bearing Assembly													

Location	Loc Qty	Loc Code
FG	14	
89826	4	
95927	10	
ST019	42	
142527	42	

D3121-21		Manufactured	No			140	Each	31.0000	1	50			
D3121-21 Bolt													

Location	Loc Qty	Loc Code
ST018	31	
136387	9	
139463	22	

M174B1.250X02.000		Purchased	No			140	f	4.5200	0.55	28.94737			
M174B1 250X02 000 17-4 SS Bar 1.250 x 2.00													

Location	Loc Qty	Loc Code
MAT010	4.52	
M131752	1.72	
M132117	2.8	

M134536 → ~~23.625~~
20.75

DAS
36
3-89

16/04/26

B144864 (28x)

B144717 (28x)

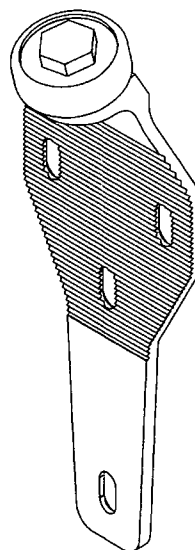
16/04/26

M142460 (42x)

DAS
14
6-89

16/04/16

QTY -041	PART NUMBER	DESCRIPTION
X	D3674-041	ROLLER BRACKET ASSEMBLY
1	D3121-21	BOLT
1	D3121-241	BEARING ASSEMBLY
1	D3674-1	BRACKET



D3674-041 BRACKET ASSEMBLY

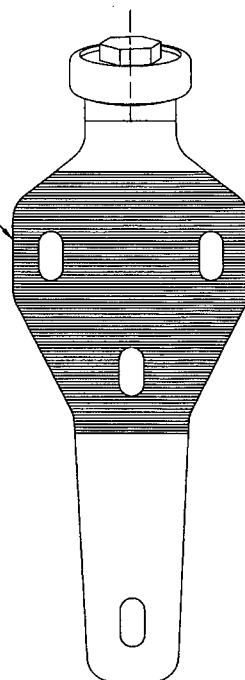
20160322
143720
SK

RELEASED
08-06-26

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: N/A
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 0.23 lbs
 - 8) TORQUE D3121-21 BOLT 15-25 in lbs (1.7-2.8 Nm)

A	NEW ISSUE	AJS	08.03.26
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MS	DRAWING NO.	REV. A
CHECKED		D3674	SHEET 1 OF 4
MFG. APPR.		TITLE	SCALE
APPROVED		ROLLER BRACKET ASSEMBLY	NTS
DE APPR.		COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	08.03.26		

D3674-1 BRACKET



8
D3121-21 BOLT

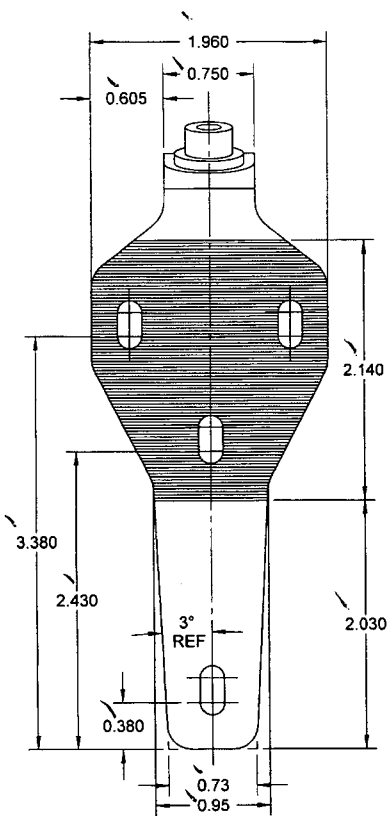
D3121-241 BEARING ASSEMBLY



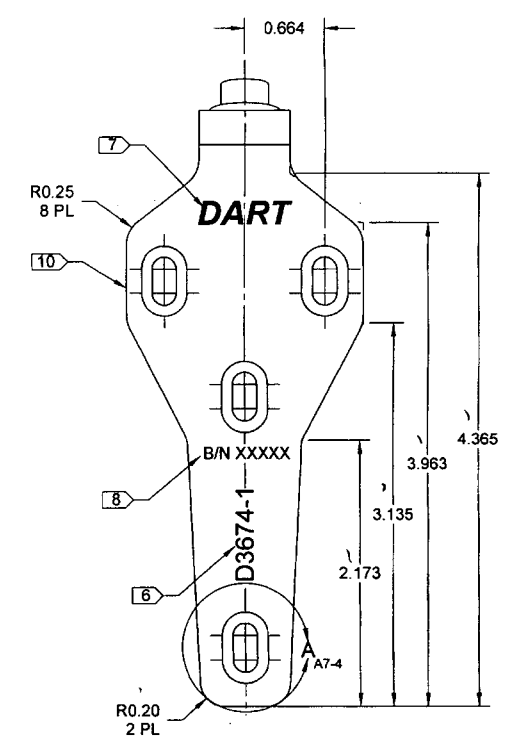
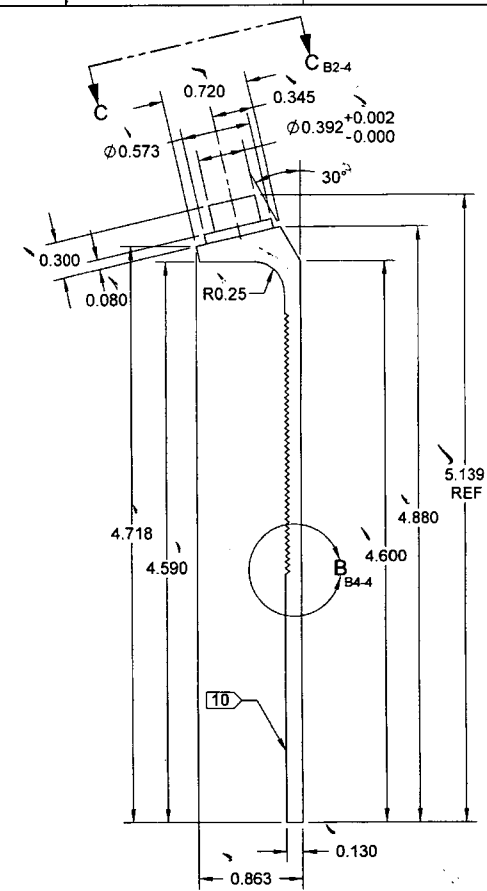
D3674-041 BRACKET ASSEMBLY

RELEASED
08-03-26

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	NSS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3674	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		ROLLER BRACKET ASSEMBLY	NTS
DATE	08.03.26	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



D3674-1 BRACKET

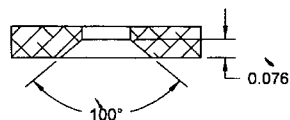


NOTES:

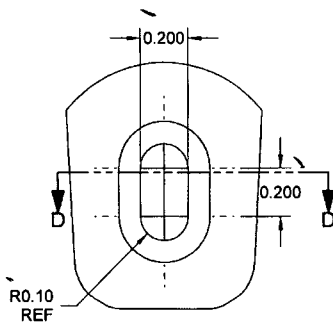
- 1) MATERIAL: 17-4 PH, STAINLESS STEEL BAR
PER AMS 5604/5643
GRAIN DIRECTION MUST BE ALONG THE LENGTH OF THE BRACKET
MINIMUM YIELD TENSILE STRENGTH = 100 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 150 ksi
(REF. DART SPEC. M17-4-B)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE WITH DART P/N "D3674-1" WITH 0.15 HIGH LETTERS TO A
MAX DEPTH OF 0.010 IN AREA SHOWN.
- 7) IDENTIFICATION: ENGRAVE DART LOGO WITH 0.20 HIGH LETTER TO A
MAXIMUM DEPTH OF 0.010 IN AREA SHOWN
- 8) IDENTIFICATION: SCRIBE DART B/N USING VIBRATING STYLUS
- 9) WEIGHT: 0.03 lbs
- 10) BASIC PROFILE OF D3674-1 BRACKET TAKEN FROM D3121-141 REF.

RELEASED
26-06-2017

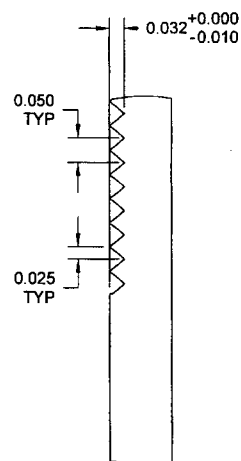
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	ADS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3674	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		ROLLER BRACKET ASSEMBLY	NTS
DATE	08.03.26	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



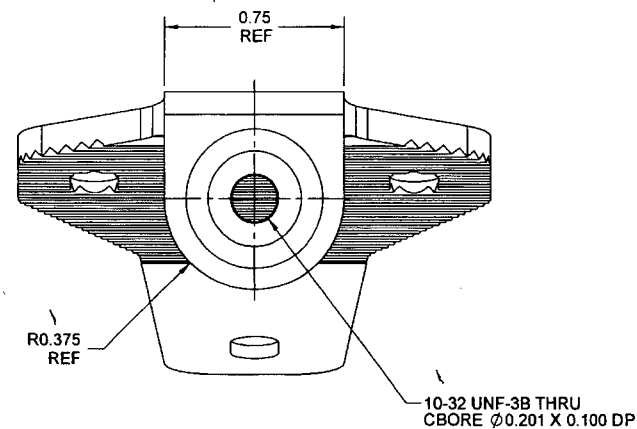
SECTION D-D



DETAIL A B2-3
SCALE 2X
(SLOT DETAIL 4PL)



DETAIL B C4-3
SCALE 4X
(RIDGE DETAIL)



VIEW C-C D3-3
SCALE 2X

RELEASED
08-06-26 M

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3674	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		ROLLER BRACKET ASSEMBLY	NTS
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DART AEROSPACE LTD		Work Order: 143720
Description: Bracket		Part Number: D3674-1
Inspection Dwg: D3674	Rev: A	Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.960	+/-0.010	1.965	—		Vern MI-06	
0.750	+/-0.010	.747	—		"	
0.605	+/-0.010	.608	—		"	
3.380	+/-0.010	3.378	—		"	
2.430	+/-0.010	2.428	—		"	
0.380	+/-0.010	.378	—		"	
0.73	+/-0.030	.730	—		"	
0.95	+/-0.030	.950	—		"	
2.140	+/-0.010	2.130	—		"	
2.030	+/-0.010	2.020	—		"	
4.718	+/-0.010	4.714	—		"	
4.590	+/-0.010	4.580	—		"	
0.863	+/-0.010	.866	—		"	
0.130	+/-0.010	.132	—		"	
4.600	+/-0.010	4.610	—		"	
4.880	+/-0.010	4.880	—		"	
5.139	+/-0.010	5.138	—		"	
R0.25	+/-0.030	R.230	—		Rte	
0.080	+/-0.010	.080	—		Vern MI-06	
0.300	+/-0.010	.300	—		"	
30°	+/-0.5°	30°	—		C-square	
Ø0.573	+/-0.010	Ø.573	—		Vern MI-06	
0.720	+/-0.010	.720	—		"	
0.345	+/-0.010	.350	—		"	
Ø0.392	+0.002/-0.000	Ø.3934	—		"	
2.173	+/-0.010	2.173	—		"	
3.135	+/-0.010	3.135	—		"	
3.963	+/-0.010	3.963	—		"	
4.365	+/-0.010	4.365	—		"	
0.664	+/-0.010	.666	—		"	
100°	+/-0.5°	100°	—		"	
0.076	+/-0.010	.078	—		"	
0.200	+/-0.010	.202	—		"	
0.200	+/-0.010	.200	—		"	
R0.10	+/-0.030	R.100	—		"	
0.032	+0.000/-0.010	.029	—		"	

